

CLAIMS

1. A current-driven liquid metal electrolyte cell of known kind, comprising means for imposing an additional, external and alternating magnetic field, wherein:
  - said field alternates primarily through time and is not intended to primarily alternate spatially;
  - said field is imposed independently from any unwanted magnetic field that cell elements would generate in use; and
  - said field primarily acts to substantially suppress instabilities.
2. A cell in accordance with claim 1, wherein the field is a periodic in time.
3. A cell in accordance with claim 1, wherein the field's mean value is essentially zero and superposed onto a background stationary field.
4. A cell in accordance with claim 1, wherein the field generates resonance to suppress instability.
5. A cell according to claim 1, wherein the magnetic field is dependent on an amplitude and frequency whose values are generated through wave reflection analysis on a theoretical wall whose parameters are sufficiently representative of the actual cell wall's parameters so that the resultant magnetic field generated and then imposed acts to substantially prevent instabilities arising essentially at the cell walls.
6. A cell according to claim 1, comprising means for applying said magnetic field essentially only to one section of the cell.